



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
State Revolving Fund Loan Program
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

FINDING OF NO SIGNIFICANT IMPACT
Approval of Facilities Plan
Hallsdale-Powell Utility District (Union, Knox, and Anderson Counties), Tennessee
Loan No. SRF 2011-279
November 22, 2011

The National Environmental Policy Act requires federally designated agencies to determine whether a proposed major agency action will significantly affect the environment. One such major action, defined by Section 511(c)(1) of the Clean Water Act, is the approval of a facilities plan prepared pursuant to Title VI of the Clean Water Act. In making this determination, the State Revolving Fund (SRF) Loan Program assumes that all facilities and actions recommended by the plan will be implemented. The state's analysis concludes that implementing the plan will not significantly affect the environment; accordingly, the SRF Loan Program is issuing this Finding of No Significant Impact (FNSI) for public review.

The Hallsdale-Powell Utility District (HPUD) has completed the facilities planning documents entitled "Raccoon Valley Wastewater Treatment Plant, Wastewater Facilities Plan" dated March 2009 and "Amendment No. 3 to the State Revolving Fund Facility Planning Document, Improvements to the Beaver Creek WWTP" dated June 2011. The facilities planning documents provide recommendations for improvements to the wastewater treatment system serving the HPUD in Union, Knox, and Anderson Counties. This project includes upgrading and expanding the Raccoon Valley Wastewater Treatment Plant (WWTP) from 0.15 to 0.30 million gallons per day (MGD) and improvements at the Beaver Creek WWTP.

The upgrading and expanding of the Raccoon Valley WWTP includes new screening equipment, a new influent pump station, modifications to the existing aeration basins, new aeration equipment, a new circular clarifier, new chlorination equipment, converting the existing backwash holding tank and existing clarifier for aerobic sludge treatment, new effluent filter and effluent pump station, new electrical equipment, new instrumentation and automated control systems for flow control and measurements, creating a lab preparation area using a portion of the existing blower room, replacing approximately 2,800 linear feet of outfall force main to Bullrun Creek, and site improvements. The proposed cost of upgrading and expanding of the Raccoon Valley WWTP is \$1,500,000.

The improvements at the Beaver Creek WWTP include replacing the existing return activated sludge (RAS)/waste activated sludge (WAS) pump station with a new variable speed drive RAS/WAS pump station; installing a new pump in the chlorine contact tank, electrical panel, and electrical duct banks to the electrical building; a 14-inch diameter ductile iron pipe exiting the pump at the chlorine contact tank to connect to a 16-inch diameter high-density polyethylene pipe effluent force main paralleling the existing gravity outfall line to Mile 23.5 of Beaver Creek; and solids handling improvements consisting of upgrades to the existing digesters with diffused

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aeration and a new centrifuge for dewatering. The proposed cost of the improvements at the Beaver Creek WWTP is \$3,300,000.

A Clean Water State Revolving Fund (CWSRF) loan in the amount of \$4,800,000 has been requested for this project.

Attached is an Environmental Assessment containing detailed information supporting this proposed action. Comments supporting or disagreeing with this proposed action received within 30 days of the date of this FNSI will be evaluated before we make a final decision to proceed.

If you wish to comment or to challenge this FNSI, send your written comment(s) to:

Mr. Sam R. Gaddipati, Environmental Manager
State Revolving Fund Loan Program
Tennessee Department of Environment and Conservation
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

or call or e-mail (615) 532-0462 or sam.gaddipati@tn.gov.

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A. PROPOSED FACILITIES AND ACTIONS; FUNDING STATUS

The Hallsdale-Powell Utility District (HPUD) has completed the facilities planning documents entitled “Raccoon Valley Wastewater Treatment Plant, Wastewater Facilities Plan” dated March 2009 and “Amendment No. 3 to the State Revolving Fund Facility Planning Document, Improvements to the Beaver Creek WWTP” dated June 2011. The facilities planning documents provide recommendations for improvements to the wastewater treatment system serving the HPUD in Union, Knox, and Anderson Counties. This project includes upgrading and expanding the Raccoon Valley Wastewater Treatment Plant (WWTP) from 0.15 to 0.30 million gallons per day (MGD) and improvements at the Beaver Creek WWTP.

The upgrading and expanding of the Raccoon Valley WWTP includes new screening equipment, a new influent pump station, modifications to the existing aeration basins, new aeration equipment, a new circular clarifier, new chlorination equipment, converting the existing backwash holding tank and existing clarifier for aerobic sludge treatment, new effluent filter and effluent pump station, new electrical equipment, new instrumentation and automated control systems for flow control and measurements, creating a lab preparation area using a portion of the existing blower room, replacing approximately 2,800 linear feet of outfall force main to Bullrun Creek, and site improvements. The proposed cost of upgrading and expanding of the Raccoon Valley WWTP is \$1,500,000.

The improvements at the Beaver Creek WWTP include replacing the existing return activated sludge (RAS)/waste activated sludge (WAS) pump station with a new variable speed drive RAS/WAS pump station; installing a new pump in the chlorine contact tank, electrical panel, and electrical duct banks to the electrical building; a 14-inch diameter ductile iron pipe exiting the pump at the chlorine contact tank to connect to a 16-inch diameter high-density polyethylene pipe effluent force main paralleling the existing gravity outfall line to Mile 23.5 of Beaver Creek; and solids handling improvements consisting of upgrades to the existing digesters with diffused aeration and a new centrifuge for dewatering. The proposed cost of the improvements at the Beaver Creek WWTP is \$3,300,000.

The HPUD Service Area is shown in Figure 1. The project areas of the Raccoon Valley and Beaver Creek WWTPs are shown in Figures 2 and 3, respectively.

FUNDING STATUS

The facilities described above comprise the scope of Loan No. SRF 2011-279 scheduled for funding in fiscal year 2012. The estimated project costs are summarized in the following tabulation:

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<u>PROJECT CLASSIFICATIONS</u>	<u>COSTS (\$)</u>
Planning Fees	50,000
Design Fees	233,520
Engineering Basic Fees	77,840
Other Engineering Fees	46,407
Resident Inspection	363,000
Construction	3,176,150
Contingencies	853,083
TOTAL	4,800,000
CWSRF Loan	4,800,000

The HPUD has applied for a \$4,800,000 Clean Water State Revolving Fund loan.

B. EXISTING ENVIRONMENT

The HPUD's Service Area is located in Anderson, Knox and Union Counties in east Tennessee. A discussion of existing environmental features in the service area includes the following:

SURFACE WATERS

Surface waters in the HPUD Service Area include Beaver Creek, Bullrun Creek, Foster Branch, and Williams Branch and their unnamed tributaries. Designated uses for Beaver Creek, Foster Branch, and Williams Branch include fish and aquatic life, recreation, livestock watering and wildlife, and irrigation. Designated uses for Bullrun Creek include domestic water supply, fish and aquatic life, recreation, livestock watering and wildlife, and irrigation.

The HPUD currently provides drinking water to its customers from two water treatment facilities, the Melton Hill Water Treatment Plant (WTP) and the Norris Lake WTP. The Melton Hill WTP operates at 6.0 million gallons per day (MGD) and withdraws raw water from Mile 3.9 of Bullrun Creek. The Norris Lake WTP operates at 4.0 MGD and withdraws raw water from the Clinch River (Norris Lake) at River Mile 115.4.

The HPUD currently owns and operates 3 WWTPs. Two of the 3 facilities have surface water discharges. The Beaver Creek WWTP, located west of Clinton Highway (U.S. Highway 25W) on Beaver Creek Drive, has a design capacity of 9.7 million gallons per day (MGD). The treated effluent from the Beaver Creek WWTP is discharged at Mile 23.5 of Beaver Creek. The Raccoon Valley WWTP, located north of Copper Ridge and to the west of Interstate 75 on Diggs Gap Road, has a design capacity of 0.15 MGD. The treated effluent from the Raccoon Valley WWTP is discharged at Mile 12.6 of Bullrun Creek. The third wastewater treatment facility owned and operated by HPUD is the Sunset Bay Wastewater System in the Sunset Bay area in Union County. The Sunset Wastewater Treatment System is a treatment and drip irrigation system with a design capacity of 0.037 MGD.

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GROUNDWATER

The occurrence of groundwater in the HPUD Service Area is controlled by fractures in the underlying rocks. The rocks themselves have little porosity. Additional porosity has developed where fractures have occurred because of the faulting and folding of the rocks. In calcareous and carbonate rocks, percolating groundwater frequently enlarges fractures to a depth of approximately 300 feet. Below this depth the fractures are small and have frequently been sealed with secondary calcite. Inventoried wells typically reveal groundwater of good quality with yields ranging from 25 gallons per minute (gpm) to a maximum of 500 gpm. Large springs yielding up to several thousand gpm are common. Most of these springs are in areas underlain by limestone and dolomite.

SOILS

Soils in the HPUD Service Area are from the Fullerton-Dewey and the Wallen-Talbott-Montevallo Soil Associations. The Fullerton-Dewey Soil Association is found on hilly and rolling slopes and consists of deep, well-drained cherty and clayey soils from dolomitic limestone. The Wallen-Talbott-Montevallo Soil Association is found on steep ridges and rolling valleys and consists of shallow to moderately deep, excessively drained and well-drained stoney and clayey soils from sandstone, shale, and limestone.

TOPOGRAPHY

The HPUD Service Area is in the Valley and Ridge Physiographic Province in east Tennessee. The topography consists of a succession of southwest/northeast alternating ridges and valleys of various widths. The elevations of Beaver Valley, Bullrun Valley, and Raccoon Valley vary between 900 to 1,000 feet above mean sea level (MSL). Beaver Ridge, Copper Ridge, Bullrun Ridge, Flint Ridge, and Chestnut Ridge have peaks that range from 1,100 to 1,300 feet above MSL.

OTHER ENVIRONMENTAL FEATURES

No wild or scenic rivers or unique agricultural, scientific, cultural, ecological, or natural areas were identified in the HPUD's Service Area.

C. EXISTING WASTEWATER FACILITIES

The HPUD owns and operates all 3 wastewater treatment plants in the HPUD Service Area providing services to northern Knox County, southern Union County, eastern Anderson County, and the Sunset Bay area of Union County. The service area covers about 90 square miles of mostly low-density residential, commercial, and rural development. The population growth experienced in the service area during recent years has primarily resulted from the increasing demand for residential neighborhoods for people working throughout the greater Knoxville metropolitan area. The current wastewater system consists of approximately 405 miles of sewers consisting of 6-inch to 36-inch diameter lines, 17 pumping stations, and 3 wastewater treatment facilities.

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The Sunset Wastewater Treatment Facility is a treatment and drip irrigation system located in the Sunset Bay area of Union County. The system was completed in 2002 and has a treatment capacity of 0.037 MGD. Individual residences are equipped with septic tanks and Advantex Treatment Units for biological treatment. The treated effluent from the individual residences is pumped through a low-pressure effluent collection system to holding tanks followed by drip irrigation, a network of subsurface lines to drip fields where it is released below the surface. The system has been operating within compliance of the State Operating Permit. The Sunset Wastewater Treatment Facility is permitted to operate by TDEC under State Operating Permit No. SOP-02022 with the following parameters and effluent limitations:

<u>PARAMETER</u>	<u>EFFLUENT LIMITATIONS</u>
BOD ₅	45 milligrams per liter (mg/l), daily maximum
Nitrite as N	20 mg/l, daily maximum
Ammonia as N	Report

The Raccoon Valley WWTP, located north of Copper Ridge and to the west of Interstate 75 on Diggs Gap Road, has a design capacity of 0.15 MGD with a calculated peak hydraulic capacity of 0.41 MGD. The service area covered by the Raccoon Valley WWTP is less than 1 square mile located in northern Knox County to the east and west of Interstate 75 and bounded by East Raccoon Valley Road to the north and Miller and Childress Roads to the south. The existing plant, built in 1974, utilizes an activated sludge process with diffused aeration. Clarification occurs in a common-wall rectangular basin utilizing a chain and flight scraper mechanism. Additional unit processes include post-aeration, chlorine dosing and contact, effluent pumping to the outfall location (Mile 12.6 of Bullrun Creek), and aerobic sludge digestion with continuous decanting and supernatant return. The 2 aeration basins currently operate in series for biological treatment. Air-lift pumps are used for sludge and scum transfer within the plant. The sludge from the plant is hauled by tanker-truck approximately 4 miles to the Beaver Creek WWTP.

The existing equipment at the Raccoon Valley WWTP has outlived its useful life. Operational issues at the Raccoon Valley WWTP are related to secondary clarification and solids conveyance in the plant, operating the influent pump station only in an on/off mode, the capacities of the influent and effluent pump stations, and the constant feed chlorine disinfection rate. The existing clarifier has a surface area of 600 square feet with a 9.5-foot side water depth. During normal and intermittent operation of the influent pump station, the dampening effect of the aeration basins is sufficient to allow for adequate settling. During periods of excessive inflow and infiltration (I/I), the continuous operation of the influent pump station results in a hydraulic loading in excess of 0.55 MGD significantly increasing the chances of solids carryover. Because of the constant feed rate, chlorine disinfection becomes insufficient during high flows and excessive during low flows. The capacity of the influent pump station is 385 gallons per minute (gpm) while the capacity of the effluent pump station is only 100 gpm. The effluent pump station is inadequate during high flows.

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The monthly average flow as reported in the Discharge Monitoring Reports from June 2005 through January 2008 was 0.071 MGD with 7 bypasses. The daily maximum effluent parameter for chlorine residual was exceeded 22 times during the period.

The Raccoon Valley WWTP is authorized by National Pollutant Discharge Elimination System (NPDES) Permit No. TN0059323 to discharge treated effluent from a treatment facility with a design capacity of 0.30 MGD at Mile 12.6 of Bullrun Creek with the following parameters and effluent limitations:

<u>PARAMETER</u>	<u>EFFLUENT LIMITATIONS</u>
CBOD ₅	10 mg/l
Ammonia as N (May 1-October 31)	2 mg/l
Ammonia as N (November 1-April 30)	5 mg/l
Suspended Solids	30 mg/l
E. coli	126 colonies per 100 ml
Chlorine Residual	0.23 mg/l instantaneous daily maximum
Settleable Solids	1.0 ml/l daily maximum
Dissolved Oxygen	5.0 mg/l instantaneous daily minimum
pH	6.0 – 9.0 Standard Units

The Beaver Creek WWTP, located west of Clinton Highway (U.S. Highway 25W) on Beaver Creek Drive, has a design capacity of 9.7 MGD with a peak flow capacity of 21.0 MGD. The service area covered by the Beaver Creek WWTP includes the HPUD's Service Area in northern Knox County not covered by the Raccoon Valley WWTP and HPUD's Service Area in southern Union and eastern Anderson Counties. The plant, originally built approximately 40 years ago with the latest upgrade and expansion project completed in June 2011, is an activated sludge plant consisting of equalization basins, preliminary screening, influent pump station, grit removal facilities, a filter membrane treatment system including biological reactors, an oxidation ditch, clarifiers, chlorination and dechlorination facilities, aerobic digestion, and belt press dewatering facilities. The HPUD currently disposes solids from the Beaver Creek WWTP to the Chestnut Ridge Landfill as approved by the TDEC's Division of Solid Waste Management (DSWM). The Beaver Creek WWTP has not had any NPDES Permit violations since the completion of the latest upgrade and expansion project.

The replacement of the RAS/WAS Pump Station, a new effluent pump in the chlorine contact tank and force main outfall line, and solids handling improvements were not included in the latest upgrade and expansion project at the Beaver Creek WWTP. The RAS/WAS Pump Station was built in 1987 and is at the end of its useful life. Replacement of the RAS/WAS Pump Station is necessary to prevent outages, malfunctions, and potential overflows and improve the positive flow of the WAS.

Treated effluent from the chlorine contact tank cannot be discharged into Beaver Creek when the level of the creek rises during and following storm events. A new effluent pump in the chlorine

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contact tank and force main outfall line will eliminate the treated effluent from backing up in the chlorine contact tank.

Digestion for the solids at the Beaver Creek WWTP is performed in 3 aerobic digesters, which are converted oxidation ditches. The aeration equipment has outlived its useful life and needs to be replaced. The digesters do not have the facilities for the decanting of supernatant for thickening. Because of the lack of thickening, the existing belt press only achieves approximately 14 percent cake solids resulting in a high cake weight and increased land disposal costs.

The Beaver Creek WWTP is authorized by NPDES Permit No. TN0078905 to discharge treated effluent from a treatment facility with a design capacity of 9.7 MGD at Mile 23.5 of Beaver Creek with the following parameters and effluent limitations:

<u>PARAMETER</u>	<u>EFFLUENT LIMITATIONS</u>
CBOD ₅ (May 1-October 31)	7 mg/l
CBOD ₅ (November 1-April 30)	15 mg/l
Ammonia as N	1.5 mg/l
Suspended Solids	30 mg/l
Dissolved Oxygen	6.0 mg/l instantaneous daily minimum
Chlorine Residual	0.024 mg/l instantaneous daily maximum
E. coli	126 colonies per 100 ml
Settleable Solids	1.0 ml/l daily maximum
pH	6.5 – 9.0 Standard Units

D. NEED FOR PROPOSED FACILITIES AND ACTIONS

As previously mentioned in Section C, Existing Wastewater Facilities, the existing equipment at the Raccoon Valley WWTP has outlived its useful life. Operational issues at the Raccoon Valley WWTP are related to secondary clarification and solids conveyance in the plant, operating the influent pump station only in an on/off mode, the capacities of the influent and effluent pump stations, and the constant feed chlorine disinfection rate. During periods of excessive inflow and infiltration (I/I), the continuous operation of the influent pump station significantly increases the chances of solids carryover. Chlorine disinfection becomes insufficient during high flows and excessive during low flows because of the constant feed rate. The capacity of the influent pump station is 385 gallons per minute (gpm) while the capacity of the effluent pump station is only 100 gpm. The effluent pump station is inadequate during high flows.

At the Beaver Creek WWTP, the RAS/WAS Pump Station is at the end of its useful life and needs to be replaced to prevent outages, malfunctions, and potential overflows and improve the positive flow of the WAS. Treated effluent from the chlorine contact tank cannot be discharged into Beaver Creek when the level of the creek rises during and following storm events. The existing belt press only achieves approximately 14 percent cake solids resulting in a high cake weight and increased land disposal costs because the digesters do not have the facilities for the

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decanting of supernatant for thickening. The completion of this project will protect public health and the environment and result in reduced sludge disposal costs incurred by the HPUD.

Existing and projected facility conditions are shown in the following table:

EXISTING AND PROJECTED FACILITY CONDITIONS

<u>POPULATION</u>	<u>EXISTING (2011)</u>	<u>PROJECTED (2031)</u>
HPUD's Service Area	68,621	91,393
Percent (%) Sewered	72.7%	92.7%
<u>HPUD's WWTP FLOWS (MGD)</u>	<u>EXISTING (2011)</u>	<u>PROJECTED (2031)</u>
Residential/Commercial	2.88	4.88
Industrial	0.72	1.22
Infiltration and Inflow (I/I)	4.45	4.45
TOTAL	8.05	10.55

The sewer lines in the HPUD's wastewater collection system have deteriorated over time. The HPUD has progressed with an ongoing I/I correction program, including the North Fork Interceptor Replacement and Willow Fork Interceptor Replacement projects completed in 2011, and the Sanitary Sewer Rehabilitation Phases 2 and 2B, scheduled for completion in 2012. The current I/I correction program should not allow the I/I to increase while the HPUD adds new sewer lines and new customers to its wastewater collection system.

E. ALTERNATIVES ANALYSIS

Several alternatives, including a "No-action" alternative, were evaluated for wastewater treatment and management in the facilities planning documents entitled "Raccoon Valley Wastewater Treatment Plant, Wastewater Facilities Plan" dated March 2009 and "Amendment No. 3 to the State Revolving Fund Facility Planning Document, Improvements to the Beaver Creek WWTP" dated June 2011. A summary discussion of the evaluation of each alternative for wastewater treatment and the selection of the recommended plan follows:

NO ACTION

The "No-action" approach was not a viable alternative. Operational issues primarily related to secondary clarification and solids conveyance, the chance of solids carryover when the influent pump station continually operates, and insufficient and excessive disinfection at the Raccoon Valley WWTP will continue to occur. At the Beaver Creek WWTP; outages, malfunctions, and overflows would occur without a new RAS/WAS pump station; chlorine contact tank overflows would occur without a new effluent force main and pumping facilities; and excessive sludge handling costs will continue to occur because of the high cake weight and increased land disposal

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costs. Actions must be taken to bring the wastewater treatment system into compliance with State and Federal requirements. Therefore, this alternative was rejected.

ALTERNATIVES FOR TREATMENT AT THE RACCOON VALLEY WWTP

Abandon Plant and Pump All Flow to the Beaver Creek WWTP

This alternative consists of increasing the capacity of the current pump station at the plant and constructing a 10-inch diameter force main approximately 53,000 linear feet in length redirecting all flows to the Beaver Creek WWTP and a 1.0 MGD intermediate pump station. Easements would have to be obtained for the force main and the intermediate pump station. This alternative was not the most cost-effective and was rejected.

Upgrade Plant and Pump Flow that Exceeds 0.15 MGD Flow to Land Application

This alternative consists of upgrading the existing plant and pumping flow that exceeds 0.15 MGD approximately 2.5 miles to a new aerated lagoon treatment system with holding lagoon and effluent dispersed by spray irrigation located on the lower slopes of the southeastern side of Chestnut Ridge. This alternative would require the purchase of 50 acres of land and easements for the transmission line from the plant to the new aerated lagoon treatment system and capital budgeted for annual operation and maintenance costs associated with a separate facility. This alternative was not the most cost-effective and was rejected.

Upgrade and Expand the Existing WWTP

This alternative consists of upgrading and expanding the existing plant including new influent and effluent pump stations, process equipment, electrical equipment, instrumentation, controls, sampling and flow measurement equipment, site improvements, outfall force main, and modifications to the existing usable facilities. This alternative does not require any additional property acquisition and has the lowest construction cost. This alternative was the most cost-effective and was selected.

ALTERNATIVES FOR SOLIDS HANDLING AT THE BEAVER CREEK WWTP

Aerobic Digestion, Dewatering, Solar Bed Drying, and Land Application

This alternative consists of retaining the existing aerobic digesters, providing screw press dewatering in a new building, drying dewatered solids in solar drying beds, and transporting and disposing dried solids by land application. This alternative would produce the lowest volume to dispose of and a Class A product with beneficial reuse, but has the highest present worth cost of the 3 feasible alternatives. This alternative was not the most cost-effective and was rejected.

Aerobic Digestion, Contract Dewatering, and Contract Landfill Disposal

This alternative consists of providing gravity thickening of solids using the existing dissolved air flotation (DAF) tank, upgrading the existing digesters using diffused aeration, and contracting out dewatering, transportation, and landfill disposal. This alternative would make use of existing facilities and has the lowest capital cost. The expense of contract dewatering

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and disposal in a landfill throughout the useful life of the project would result in a higher present worth cost than the chosen alternative. This alternative was not the most cost-effective and was rejected.

Aerobic Digestion, Dewatering, and Landfill Disposal

This alternative consists of replacing the existing RAS/WAS pump station with a new variable speed drive RAS/WAS pump station and solids handling improvements including upgrades to the existing digesters with diffused aeration and a new centrifuge for dewatering. This alternative utilizes existing facilities, utilizes proven technology, and has the lowest present worth cost. This alternative was the most cost-effective and was selected.

F. ENVIRONMENTAL CONSEQUENCES; MITIGATIVE MEASURES

The environmental benefits of this project will be the improvement of water quality conditions in Bullrun Creek and the protection of public health and the environment.

During the construction phase, short-term environmental impacts due to noise, dust, mud, disruption of traffic, runoff of silt with rainfall, etc., are unavoidable. Minimization of these impacts will be required; however, many of these minimization measures will be temporary and only necessary during construction. Using the following measures to prevent erosion will minimize impacts on the environment:

1. Specifications will include temporary and permanent measures to be used for controlling erosion and sediment.
2. Soil or landscaping maintenance procedures will be included in the specifications.
3. The contractor will develop an Erosion Control Plan. It will contain a construction schedule for each temporary and permanent measure controlling erosion and sediment. It will include the location, type, and purpose for each measure and the times when temporary measures will be removed or replaced.

These measures, along with requiring the contractor to return the construction site to as-good-as or better-than its original condition, will prevent any adverse impacts due to erosion.

The proposed action will comply with all relevant Phase I and/or Phase II stormwater regulations, including ensuring adequate sediment control and implementation of best management practices.

The state's Historic Preservation Officer has reviewed the project and has determined that the project will not impact known significant cultural resources.

A Section 10 and/or a Section 404 Permit will be obtained from the U.S. Army Corps of Engineers (USACE), if required, prior to the start of construction.

No endangered species of flora or fauna were identified within the proposed construction areas. Effects on flora and fauna will be confined and temporary.

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Activities that may require a permit under the Water Quality Control Act and Regulations include, but are not limited to, the following: stream bank vegetation removal; creek crossing(s) for equipment or utility lines; construction within twenty (20) feet of a stream bank; or construction in or near a marshy area or wetland. Mr. David Duhl (david.duhl@tn.gov or 615-532-0438) with the TDEC's Division of Water Pollution Control's (DWPC's) Central Office in Nashville, Tennessee, or Mr. Paul Schmierbach (paul.schmierbach@tn.gov or 865-594-5529) with the TDEC's DWPC's Knoxville Environmental Field Office in Knoxville, Tennessee should be contacted for determinations regarding an NPDES Permit or an Aquatic Resource Alteration Permit for those activities that may result in degradation of waters of the State.

G. PUBLIC PARTICIPATION; SOURCES CONSULTED

A Public Meeting was held on November 10, 2011, at 6:30 p.m., local time. The selected plan for the Raccoon Valley WWTP Upgrade and Expansion and the Beaver Creek WWTP Improvements projects and user charges were described to the public, and their input was received. This agency is not aware of any unresolved public objections that may have been voiced before or after the public meeting regarding this project.

The annual median household income for the Hallsdale-Powell Utility District is \$49,231. At the projected time of the initiation of the loan repayment, sewer rates for the typical residential user (5,000 gallons per month) will be \$52.52. The user charges are projected to be sufficient to repay the SRF loan. Therefore, no increase in user charges will be required.

Sources consulted about this project for information or concurrence were:

1. Tennessee Department of Agriculture
2. Tennessee Department of Economic and Community Development
3. TDEC, Division of Air Pollution Control
4. TDEC, Division of Groundwater Protection
5. Tennessee Historical Commission
6. TDEC, Division of Archaeology
7. TDEC, Division of Natural Areas
8. TDEC, DSWM
9. TDEC, DWPC
10. TDEC, Division of Water Supply
11. Tennessee Department of Transportation
12. Tennessee Wildlife Resources Agency
13. USACE
14. United States Fish and Wildlife Service
15. HPUD
16. Anderson County
17. Knox County
18. Union County
19. CTI Engineers, Inc.

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H. SPECIAL CONDITIONS

The State Revolving Fund loan agreement will have the following special condition:

The HPUD shall obtain applicable Section 10/404 Permits from the USACE to meet the requirements of wetlands protection and stream-crossing statutes. A letter from the USACE stating that the permits are not needed will obviate this requirement.